

Relieve pain and continue to train! Dry Needling Intervention for Foot Tendinopathies

Aubrey Kuester, SPT and Lisa Chase, PhD, PT, CEEAA

BACKGROUND AND PURPOSE

- ❑ Plantar fasciitis and Achilles tendinopathy are among the top five most prevalent sources of foot pain in competitive runners. Of these, plantar fasciitis is the most common, with an estimated 1 million Americans per year seeking treatment. These conditions often occur simultaneously, with no current studies addressing the management of these two pathologies in addition to a peroneal tendinopathy.
- ❑ The purpose of this case report is to describe a multimodal physical therapy intervention of dry-needling, manual therapy and low-dye anti-pronation taping for a female marathon runner with bilateral plantar fasciitis, Achilles and peroneal tendinopathies.

CASE DESCRIPTION

BODY STRUCTURE

- Excessive rearfoot valgus on bilateral feet
- Bilateral Achilles and peroneal tendinopathies
- Bilateral Plantar Fasciitis

ACTIVITY LIMITATIONS

- Pain during:**
- Walking
 - Prolonged standing
 - Rising up on toes
 - Running

PARTICIPATION

- Unable to:**
- Ambulate
 - Stand while working as a licensed massage therapist
 - Training for an upcoming marathon event

PERSONAL FACTORS

- 37 year old female
- Married with two children
- Averaged 40 miles a week training for marathons

INTERVENTIONS



Dry-Needling to lower extremities muscles, manual mobilizations to the talocrural joint and consistent maintenance of low-dye anti-pronation taping.

Dry-Needling	Week 1 - 2	Week 3 - 4
Muscles	Soleus Gastrocnemius Tibialis Anterior Peroneus Longus Peroneus Brevis Popliteus	Flexor Digitorum Brevis Biceps Femoris Semitendinosus Semimembranosus Tensor Fascia Latae

RESULTS

Examination Outcome Measures	Initial	4 weeks (10 treatment sessions)
Ankle Dorsiflexion ROM	R: 0 degrees L: -4 degrees	R: 23 degrees L: 19 degrees
LEFS	34/80	74/80
NPRS	8/10	2/10
Running Distance	0 miles	26.2 miles

REFERENCES



CONCLUSION

- ❑ At the end of week 4, the patient reported a 0/10 NPRS score with ambulation and a 2/10 pain following a 16 mile run.
- ❑ In the 5th week following discharge, she participated in a full marathon, setting a personal record with a time of 3 hours 36 minutes, qualifying for the Boston Marathon.
- ❑ Her outcomes well exceeded the minimally clinically important difference, with a 40-point overall improvement on the LEFS.
- ❑ Manual therapy showed more immediate improvements in ankle dorsiflexion range of motion, although even greater ranges were measured when combined with dry-needling.
- ❑ This case report demonstrates the benefits of a multimodal intervention for the management of a runner with multiple bilateral foot tendinopathies in just four weeks of care.

